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29 MAY 1984

MEMORANDUM FOR: (See Distribution List)

FROM:

[redacted]
Chief, Strategic Resources Division
Office of Global Issues

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SUBJECT:

Soviet Crop Conditions [redacted]

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1. The attached memorandum assesses the condition of the Soviet grain crop and the impact of recent weather events. Additional memoranda will be issued throughout the late spring and summer should changes in weather significantly alter our assessment of crop conditions. [redacted]

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2. This assessment was produced by [redacted]
[redacted] the Agricultural Assessments
Branch, Strategic Resources Division, Office of Global Issues. [redacted]

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3. Comments and questions are welcome and may be addressed to the Chief, Agricultural Assessments Branch, [redacted]

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Attachment:

USSR: 1984 Grain Crop in Trouble [redacted]
GI M 84-10097, May 1984. [redacted]

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GI M 84-10094

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SUBJECT: Soviet Crop Conditions

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OGI/SRD/AAB/ (29 May 84)

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Central Intelligence Agency



Washington, D.C. 20505

DIRECTORATE OF INTELLIGENCE

29 MAY 1984

USSR: 1984 Grain Crop in TroubleSummary

Drought in the Volga Valley and parts of the Central, Central Black Earth, North Caucasus regions, and Volga Vyatka has eliminated Moscow's chances this year for a near-record grain crop. However, meteorologic conditions are now showing signs of change. We believe that the weather will improve during the next two weeks, particularly in the drought area, and halt further crop losses in that region. There is still time for the crop to recover somewhat, and production could go as high as 200 million tons--5 million tons more than last year's estimated output--if ideal conditions prevail for the remainder of the crop season.

[REDACTED]

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This memorandum was prepared by [REDACTED]
[REDACTED] Agricultural Assessments Branch, Strategic
Resources Division, Office of Global Issues. Comments may be
directed to [REDACTED] Chief, Strategic Resources Division, on
[REDACTED]

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GI M 84-10097

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USSR: 1984 Grain Crop in Trouble

Following a good start, the outlook for the 1984 Soviet grain crop has deteriorated sharply in recent weeks because of adverse weather in a key portion of the grain region. More importantly, unless conditions turn around soon, Moscow may well be faced with a major crop shortfall. [redacted]

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Grain Crop Developments to Date

Winter Grains. Our analysis of crop conditions to date indicates that a winter grain harvest of some 60 million tons is likely if normal weather conditions return soon and persist. Although far short of the record 86-million-ton harvest in 1978, a crop of this size would be slightly above the estimated annual output of 55 million tons averaged during 1979-83. Total sown area--estimated to be 34.5 million hectares--is up two million hectares from a year ago, and we believe that the generally mild winter kept winterkill below average. [redacted]

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Potential winter grain yields have been cut by two bouts of poor weather. Abnormally dry conditions persisted from mid-January to mid-April in parts of the eastern Ukraine, the North Caucasus, the southern Volga Valley, and the Central Black Earth region. The US Department of Agriculture Attache observed dust storms and poor-to-fair stands of winter grains during a trip through the region in April, confirming our meteorological data. Late March LANDSAT imagery of central Krasnodar Kray also showed that winter grains emerged from dormancy in poor condition. LANDSAT imagery of 4-10 May and meteorologic data indicate that periodic showers in this area since late April have provided temporary relief, but timely rains will be needed in the coming weeks to prevent any further damage. [redacted]

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More serious problems have stemmed from a quasi-stationary high pressure system that has been centered over the Volga Valley since the beginning of May. The system was beginning to show signs of weakening when rainshowers occurred throughout the region on 27, 28, and 29 May. The hot, dry, weather associated with this system has caused moderate to severe crop stress over the entire valley, as well as parts of the Central, the Central Black Earth, the north Caucasus, and the Volga Vyatka regions. Reconnaissance satellite imagery shows numerous grass fires--an indication of critically low soil moisture--and poor stands of winter grains. The total area affected by the poor weather typically produces nearly one-third of annual Soviet winter grain output. Crops outside the problem area, particularly those in the Ukraine, have received adequate precipitation and in general are developing well. Although soil moisture levels in these regions are below the September - April averages for the 1979 - 83 period, they compare favorably with 1983 (Table 1). [redacted]

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Spring Grains. Despite a good start for the second consecutive year, prospects for the spring grain crop--sown in April and May and harvested in late summer and fall--have also been jeopardized by the recent downturn in weather. []

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[] germination in the affected area was delayed at least one week because of dry soils. Plant emergence was uneven as well. About one-fifth of the spring crop is now at risk. []

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The outlook would be even worse except that the annual spring sowing campaign is progressing well and early crop development outside the problem area, as viewed on satellite imagery, is good. By the middle of May, planting was running slightly ahead of the average pace of the past five years. Grain sown early often flowers before the summer's hottest weather, when unusually hot, dry conditions can lead to plant sterility and reduced yields. (Flowering is the stage of crop development when maximum potential yields are determined.) Early planting also reduces plant vulnerability to frost damage in the fall. []

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A Preliminary Outlook for Grain Production and Other Crops

With about a quarter of the spring grain crop still to be planted, it will be two to three months before a sound estimate of 1984 Soviet grain production can be made. Potential grain yields can be affected at almost any time during the crop season:

- o In May and early June during the completion of planting.
- o In June and July, when winter and spring grains reach the critical flowering stage of development.
- o In August and September as the bulk of grain crop is harvested. []

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Moscow's grain target of 240 million tons is already well beyond reach, however. The principal limiting factors are acreage and the crop damage already sustained. In 1978, when the USSR produced a record 237 million tons of grain, yields per hectare reached a level still unmatched, and the area harvested was second in size only to the 1977 record. This year plans call for grain to be sown on 123 million hectares, three million hectares below the average of recent years, and 5.5 million less

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than were harvested in 1978.² Moreover, we estimate that this year's harvested area of winter grains is likely to be at least one million hectares smaller than in 1978. Winter grains usually yield about 50 percent more per hectare than spring grains, and account for about one-third of total grain output. []

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Even though planned grain production will not be achieved in 1984, a harvest approaching 200 million tons--5 million more than last year's estimated output--is possible if ideal growing conditions prevail through the summer.³ Indeed, prospects for about three-fourths of the grain crop are generally good at this point in time. Furthermore, we believe that the weather will improve during the next two weeks, particularly in the drought area, and halt further crop losses in that region. On the other hand, should the weather deteriorate markedly, as it often does in the important spring grain areas of the Volga Valley and Kazakhstan, grain output would fall well below the 200 million ton mark. []

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² This year's plan reflects a continuing Soviet effort to expand the amount of arable land put into fallow. Although fallowing sacrifices production in the year in which the land is idled, it usually results in higher, more stable output in subsequent years as long as the fallowed acreage is maintained in the crop rotation schedule. []

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³ The US Department of Agriculture's initial forecast of the 1984 Soviet grain crop is 190 million tons. This estimate is based partially on trend analysis, and assumes that normal weather will prevail. It carries a variation of \pm 20 million tons, a range that is expected to encompass the harvest 2 out of 3 times. []

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Table 1

USSR Grain Regions - Total Precipitation
September - April

<u>Region</u>	<u>Precipitation (mm)</u>		<u>Region</u>	<u>Precipitation (mm)</u>	
	<u>1982-83</u>	<u>83-84</u>		<u>1982-83</u>	<u>83-84</u>
Baltics	413	372	Volga-Vyatka	244	275
Belorussia	401	277	Upper Volga	214	158
Western Ukraine	280	256	Middle Volga	109	146
North Central Ukraine	295	308	Lower Volga	171	216
Northeast Ukraine	294	329	Northwest Urals	197	272
East Ukraine	194	329	Southern Urals	173	253
South Ukraine	175	281	Northeast Urals	156	235
Moldavia	170	271	Western Kazakhstan	140	158
Krasnodar	307	441	Kustanay	98	120
Northeast Caucasus	177	261	Tselinograd	165	141
Western Black Earth	282	237	North Kazakhstan	143	155
Eastern Black Earth	168	168	Pavlodar	124	139
Central	295	266	West Siberia	226	274
			Altay	206	206